

Application ~103

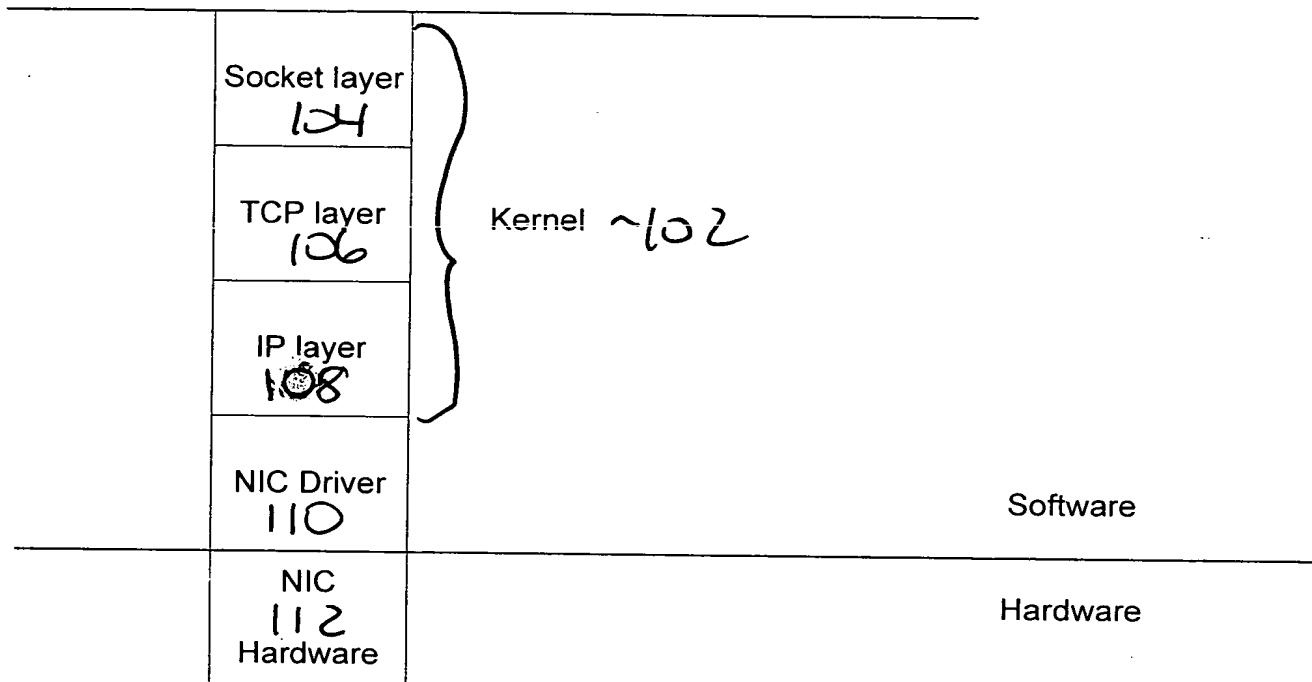
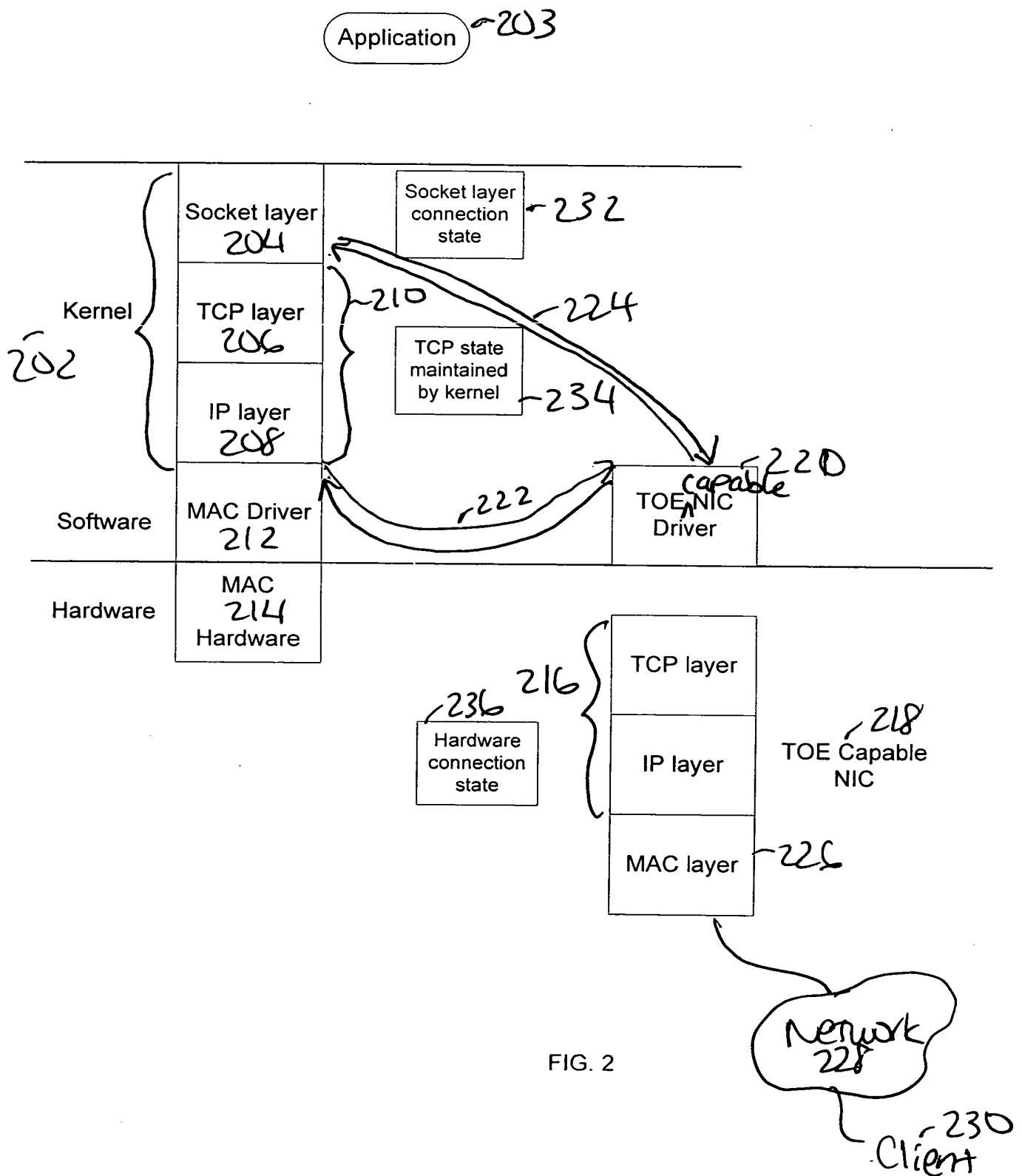


FIG. 1



Data structures

A. Data structures maintained by socket layer:

1. Connection state maintained by socket layer (SONODE): Socket state information

SOCKET LAYER CONNECTION IDENTIFIER
 HARDWARE CONNECTION IDENTIFIER
 POINTER TO CONNECTION STATE MAINTAINED BY KERNEL (* CONNT)

2. Connection state table maintained by socket layer:

Identifier	State information
A	Pointer to socket layer connection state
.	.
.	.

B. Connection state maintained by kernel (CONN): TCP/IP state information

KERNEL CONNECTION IDENTIFIER

1. Minimum state necessary to offload a connection (MIN_TCP_T):

 Local (server) and remote (client) IP addresses and ports
 Send/receive sequence numbers of packets for the connection
 Any round trip estimates for each packet
 Congestion window, slow start

C. Hardware connection state maintained by NIC (HW_CONN_T): NIC connection state

HARDWARE CONNECTION IDENTIFIER (HW_CONNID)
 POINTER TO SOCKET STATE INFORMATION (* SONODE)

1. Minimum state necessary to offload a connection (MIN_TCP_T):

 Local (server) and remote (client) IP addresses and ports
 Send/receive sequence numbers of packets for the connection
 Any round trip estimates for each packet
 Congestion window, slow start

FIG. 3

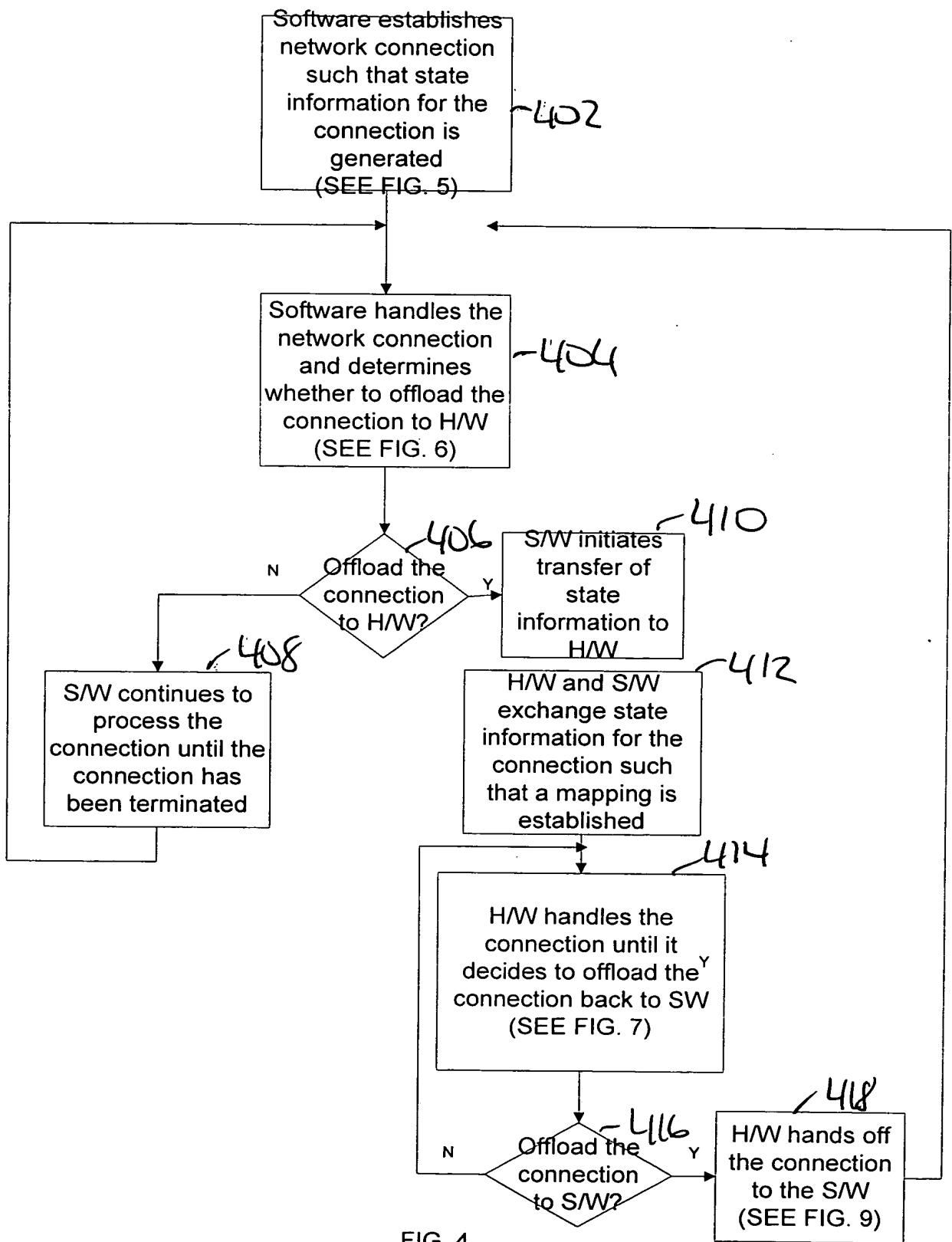


FIG. 4

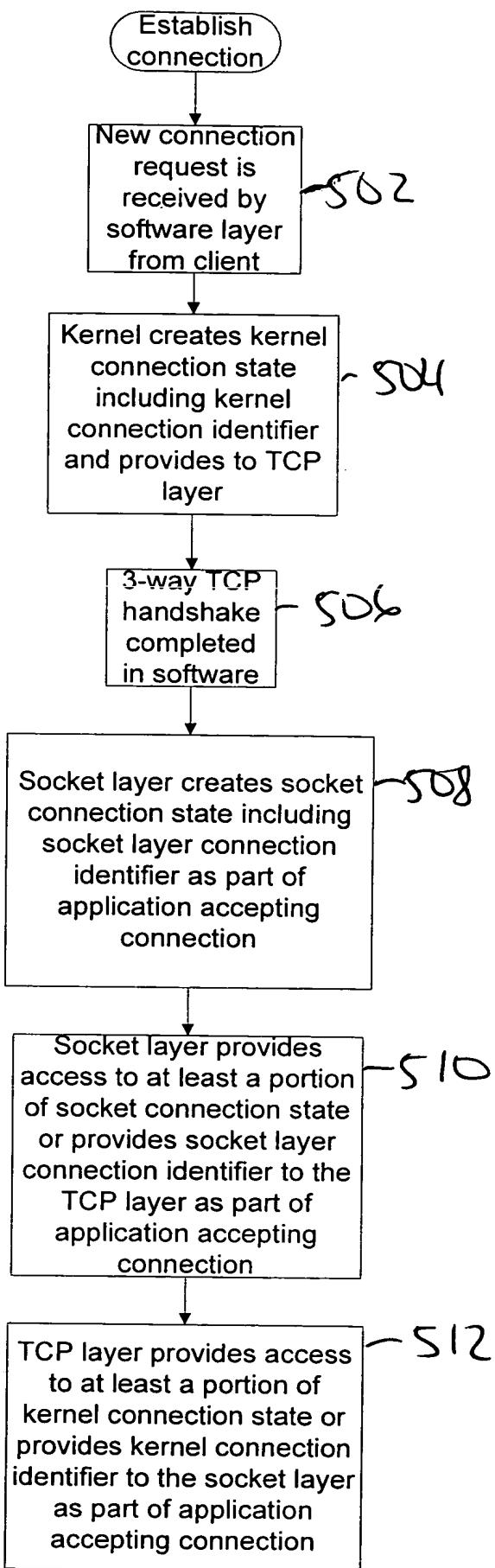


FIG. 5

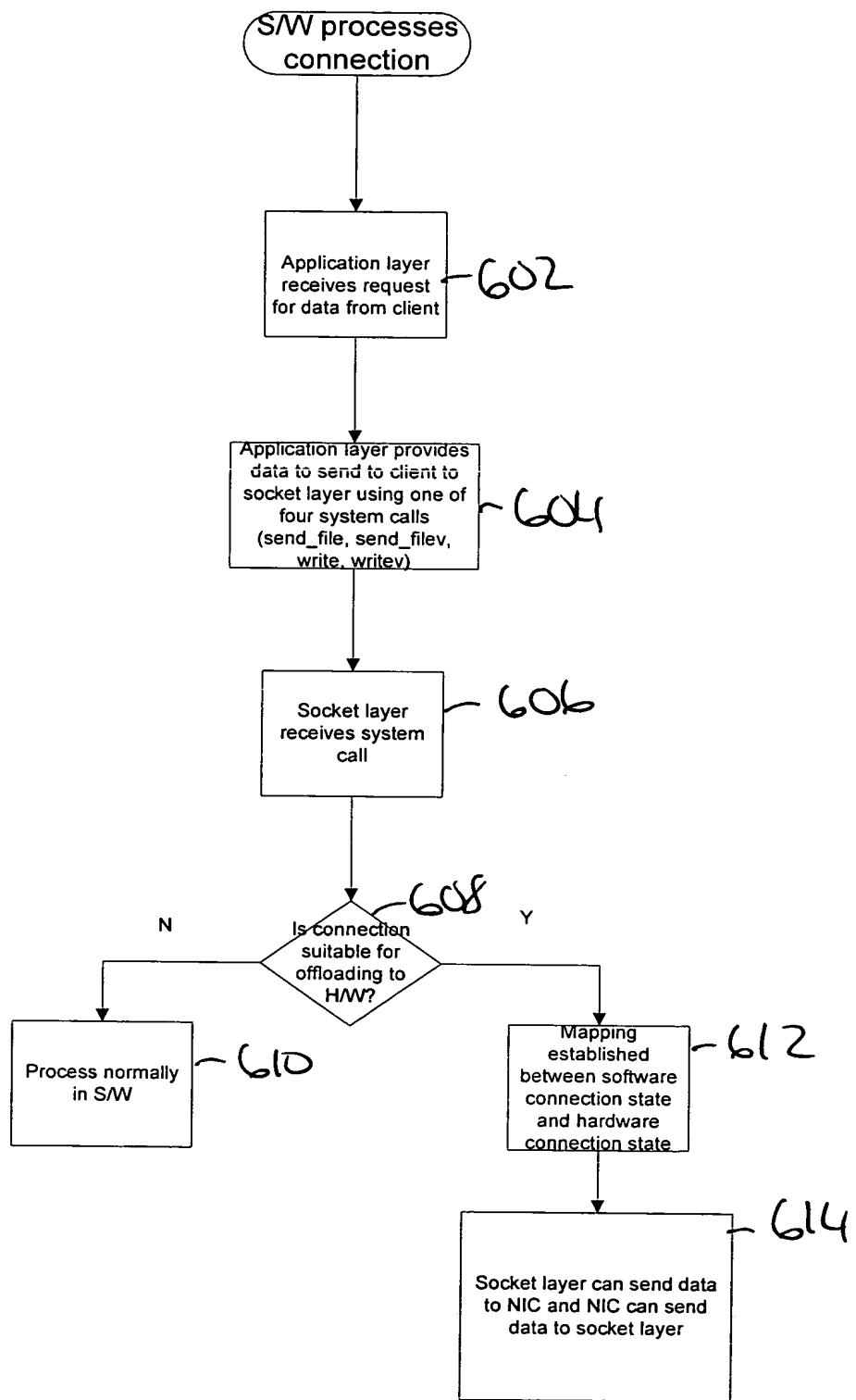


FIG. 6

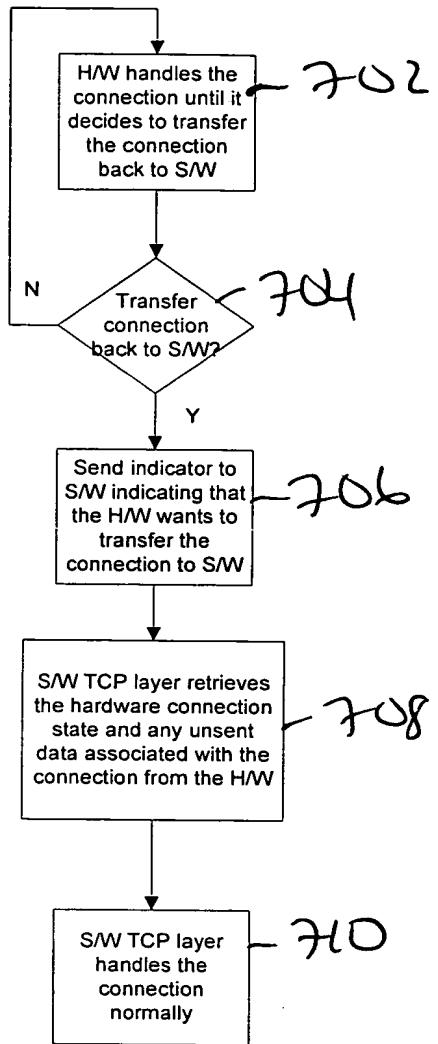


FIG. 7

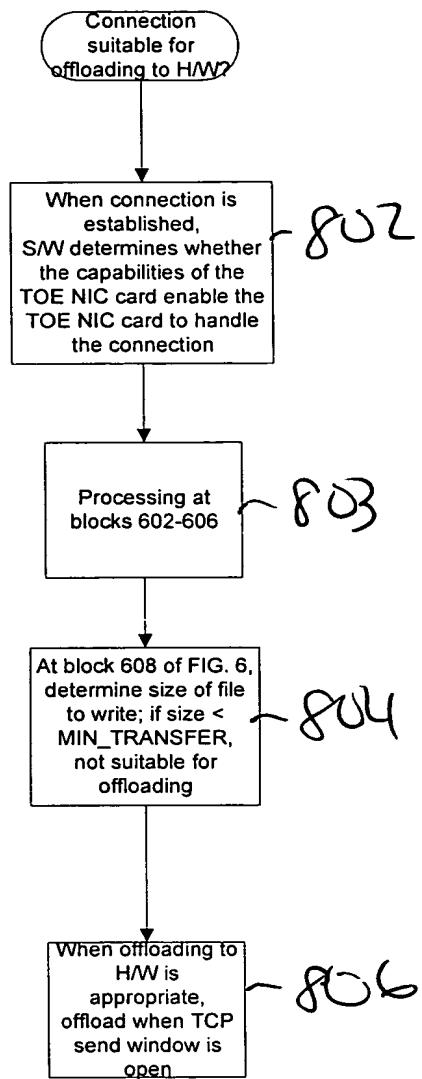


FIG. 8

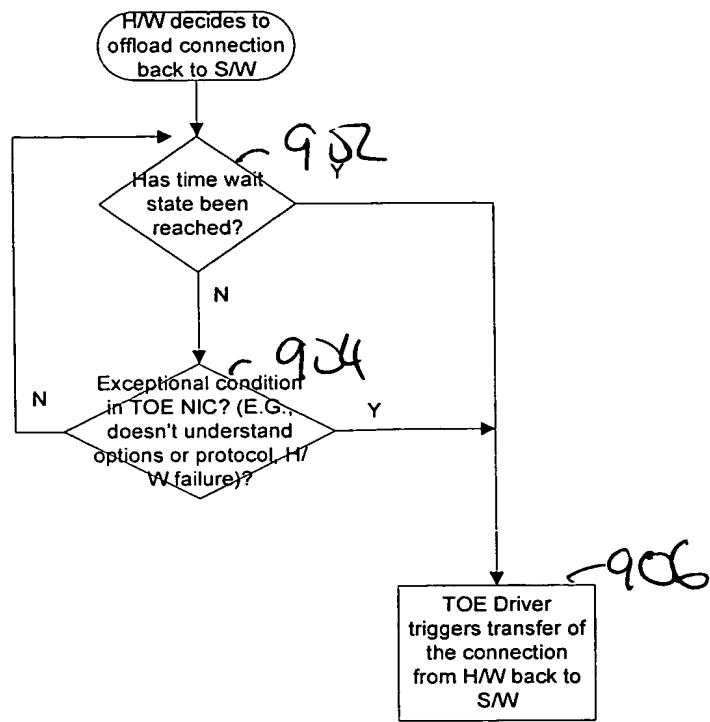


FIG. 9

FIG. 10

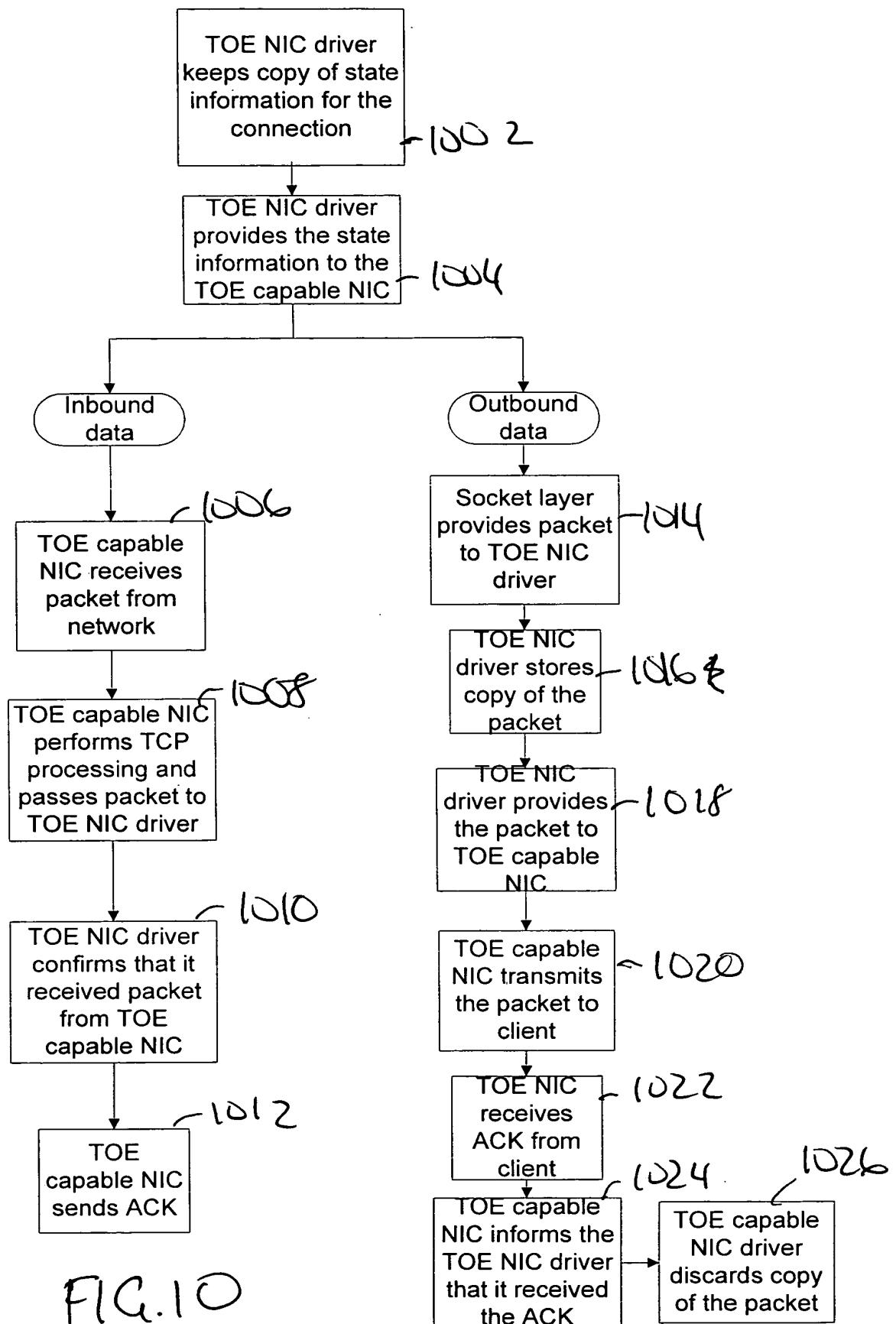


FIG.10

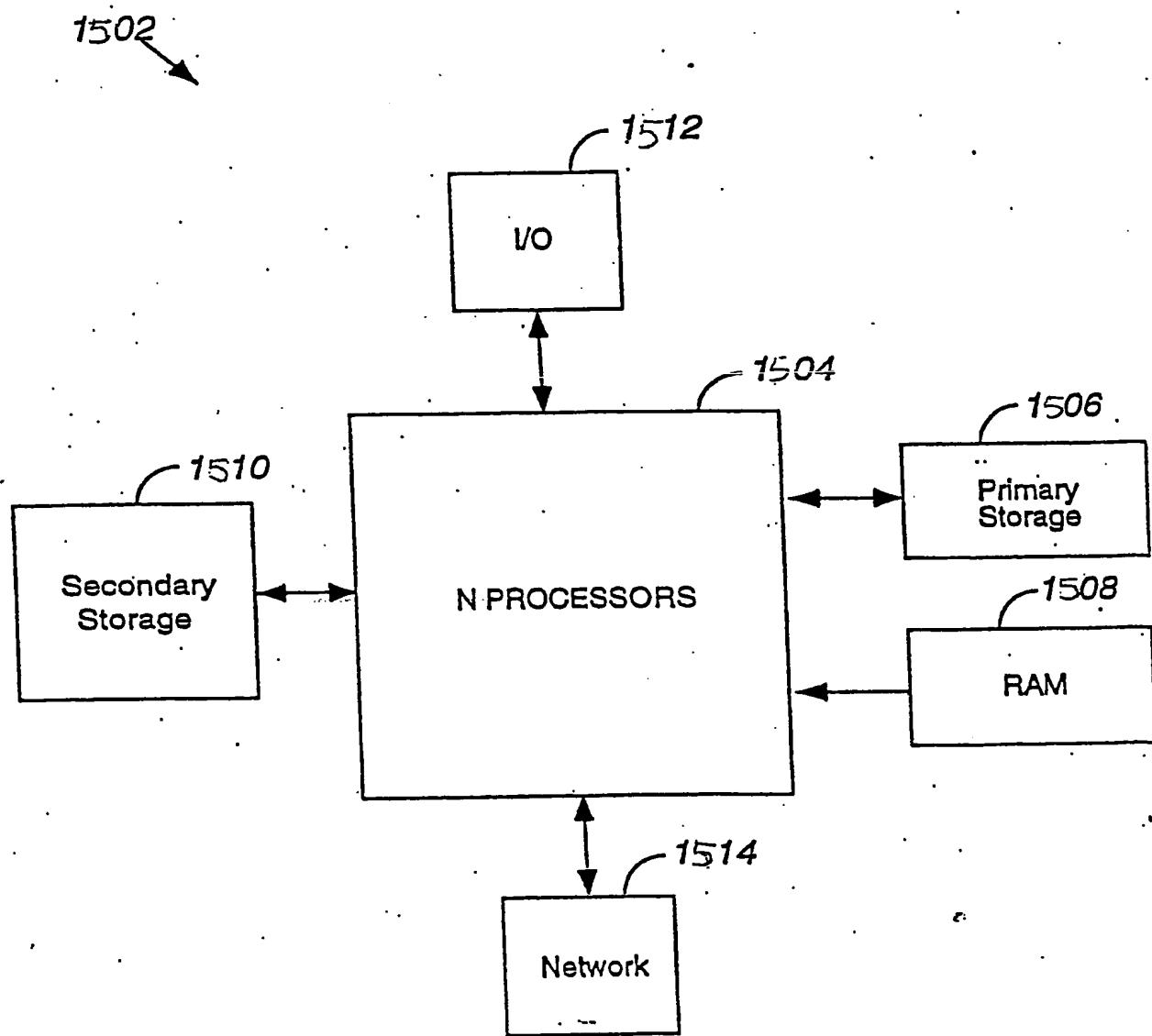


Figure 11